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EXAMINER

DHARIA, PRABODH M

ART UNIT PAPER NUMBER

2673

DATE MAILED: 01/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/763,174

Applicant(s)

FROEHLICH ET AL.

Examiner

Prabodh M Dharia

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 2673

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because total number of words exceed 150, at the bottom of the page phrase "(Fig. 1)" does not belong in the abstract, which should be deleted and it is also repeating the information given in the title **"Input device for control signals for controlling the movement of an object represented on a display device and graphic display having said input device"**, which also should be deleted. Correction is required. See MPEP § 608.01(b).
4. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without

Art Unit: 2673

underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Content of Specification

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.
- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic

Art Unit: 2673

documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.

Or alternatively, Reference to a "Microfiche Appendix": See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.

- (e) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
- (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."
 - (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (f) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.
- (g) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (h) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the

Art Unit: 2673

art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.

- (i) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet (37 CFR 1.52(b)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).
 - (j) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).
 - (k) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.
5. The spacing of the lines of the specification is such as to make reading and entry of amendments difficult. New application papers with lines double spaced on good quality paper are required.
6. The application papers are objected to because they are not a permanent copy as required by 37 CFR 1.52(a). Reference is made to as they are not easily erasable paper.

Applicant is required either (1) to submit permanent copies of the identified parts or (2) to order a photocopy of the above identified parts to be made by the Patent and Trademark Office at applicant's expense for incorporation in the file. See MPEP § 608.01.

Art Unit: 2673

Drawings

7. The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81. No new matter may be introduced in the required drawing.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1,4-7,11-14, are rejected under 35 U.S.C. 102(b) as being anticipated by Yasutake (5,729,249).

Regarding Claim 01, Yasutake teaches an input device (Col. 1, Line 14) for control signals for controlling the movement of an object represented on a display device (Col. 6, Lines 27-33), comprising a housing (24) (Col. 6, lines 45,46), three control signal generating devices (38, 40, 42) for generating first control signals to the display device (Col. 6, Lines 43-48), three mutually orthogonal actuating elements (32, 34, 36) (figure 7, Col. 9, Lines 11-15), each being supported at or in the housing (24) for linear displacement along one of three orthogonal spatial axes (x, y, z) (figure 7, Col. 9, Lines 9-15) and projecting outward beyond the housing (24) within at least one of two opposite portions of the housing (24), respectively, each actuating element (32, 34, 36) respectively cooperating with a different one of the control signal

Art Unit: 2673

generating devices (38, 40, 42) (figure 7, Col. 9, Lines 11-27), and wherein, in dependence on the displacement position of the actuating elements (32, 34, 36), the control signal generating devices (38, 40, 42) generate the first control signals for displacement of the object on the display device along three directions corresponding to the spatial axes of the housing (24) on the display device (Col. 4, Lines 1-3, Col. 9, Lines 11-27), and a position detection sensor arrangement (46) provided in or at the housing (24), the position detection arrangement (46) sensing the orientation and/or the position of the housing (24) and generating a corresponding control signal to the display device for orienting the object on the display device according to the orientation and position of the housing (24) (Col. 9, Lines 3-28).

Regarding Claim 04, Yasutake teaches an input device (Col. 1, Line 14) for control signals for controlling the movement of an object represented on a display device (Col. 6, Lines 27-33), comprising a housing (24) (Col. 6, lines 45,46), three control signal generating devices (38, 40, 42) for generating first control signals to the display device (Col. 6, Lines 43-48), three pairs of actuating elements, both actuating elements in each pair being arranged at different, in particular opposite (figure 1, Col. 5, Lines 36-47) portions of the housing lying on a respective one of three orthogonal spatial axes extending through the housing (figure 1, Col. 5, lines 53-67), each pair of actuating elements respectively cooperating with a different one of the control signal generating devices (Col. 5, Lines 56-67), and wherein, in dependence on the actuating condition (e.g., actuating time and/or actuating pressure) of the actuating elements, the control signal generating devices generate the first control signals for displacement of the object on the display device along three directions corresponding to the spatial axes of the housing on

Art Unit: 2673

the display device (Col. 5, Lines 53-58), and a position detection sensor arrangement provided in or at the housing, the position detection arrangement sensing the orientation and/or the position of the housing and generating a corresponding control signal to the display device for orienting the object on the display device according to the orientation and position of the housing (figure 1, Col. 5, Line 36 to Col. 6, Line 15).

Regarding Claim 05, Yasutake teaches the actuating elements (32, 34, 26) are supported at or in the housing (24) for rotation about their axes (x, y, z) extending in the respective direction of displacement and wherein the control signal generating devices (38, 40, 42) generate second control signals to the display device (10) in dependence on the rotational positions of the actuating elements (32, 34, 26) (Col. 9, Lines 9-42).

Regarding Claim 06, Yasutake teaches a rotary actuating element (50, 52, 54) is provided per actuating element (32, 34, 36), which is rotatable around the axis of the associated actuating element (32, 34, 26) extending in the direction of displacement (x; y; z) and wherein the control signal generating devices (38, 40, 42) or additional control signal generating devices (56, 58, 60) generate second control signals to the display device (10) in dependence on the rotational position of the rotary actuating elements (50, 52, 54) (Col. 9, Lines 9-42, Col. 1, Lines 14-22).

Regarding Claim 07, Yasutake teaches the actuating elements (32, 34, 36) penetrate the rotary actuating elements (50, 52, 54) (Col. 9, Lines 9-42).

Art Unit: 2673

Regarding Claim 11, Yasutake teaches the housing (24) has the shape of a parallelepiped (Webster defines as six parallelogram planes connected in the space- cube or polyhedron), in particular a cube, and the actuating elements (32, 34, 36) protrude from all side walls (26, 28, 30) of the housing (24) or are arranged on all side walls (26, 28, 30) of the housing(24) (Col. 5, Line 53 to Col. 6, Line 6).

Regarding Claim 12, Yasutake teaches the housing is spherical in shape and the actuating elements are protrude from or are arranged in substantially diametrically opposite regions (Col. 2, Lines 27-30, figure 18, Lines 42-49).

Regarding Claim 13, Yasutake teaches the housing substantially corresponds to the outer contour of an object to be displayed on the display device and the actuating elements are arranged corresponding to the axes along which the object may be controlled in its representation (figure 30, 33a1, 33a2, Col. 14, Lines 34 to Col. 15, Line 6).

Regarding Claim 14, Yasutake teaches a display system for representing sectional views of an object that are adapted to be displaced along orthogonal axes (figure 28b, 28d, 28f, Col. 13, Line 65 to Col. 14, Line 18) comprising a display device (10) and an input device (22) for generating control signals for displacing and/or orienting and/or positioning the object to be represented and/or displacing the sectional views along the axes (x,y,z), the input device (22) being configured according to one of the previous claims (33a2, 33b2, 33c2, Col. 13, Line 65 to Col. 15, Line 43).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 2,3,8-10, are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasutake (5,729,249) in view of Levin et al. (6,154,201).

Regarding Claim 02, Yasutake teaches an input device (Col. 1, Line 14) for control signals for controlling the movement of an object represented on a display device (Col. 6, Lines 27-33), comprising a housing (24) (Col. 6, lines 45,46).

However, Yasutake fails to teach the actuating elements (32, 34, 36) are supported in or at the housing (24) around a rest position, in particular centered about a rest position, and automatically move back into the rest position upon displacement from the same.

However, Levin et al. teaches the actuating elements (32, 34, 36) are supported in or at the housing (24) around a rest position, in particular centered about a rest position, and automatically move back into the rest position upon displacement from the same (Col. 1, Line 60 to Col. 2, Line 15, Col. 2, Lines 38-40, Col. 5, Lines 47-65).

Art Unit: 2673

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of Levin et al. in Yasutake teaching for having a user friendly input device with greater control of functionality.

Regarding Claim 03, Levin et al. teaches only upon a displacement from the rest position, will the control signal generating devices (38, 40, 42) generate control signals in dependence on the direction and/or degree of displacement(Col. 1, Line 60 to Col. 2, Line 50).

Regarding Claim 08, Yasutake teaches an input device (Col. 1, Line 14) for control signals for controlling the movement of an object represented on a display device (Col. 6, Lines 27-33), comprising a housing (24) (Col. Col. 6, lines 45,46).

However, Yasutake fails to teach at or in the housing(24), switches or key switches or other actuating elements (48) are arranged for providing further control signals to the display device(10).

However, Levin et al. teaches at or in the housing(24) (Col. 4, Lines 54,55), switches or key switches or other actuating elements (48) are arranged for providing further control signals to the display device(10) (Col. 4, Lines 48-50).

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of Levin et al. in Yasutake teaching for having a user friendly input device with greater control of functionality.

Art Unit: 2673

Regarding Claim 09, Levin et al. teaches actuating element(32, 34, 36) and - if provided - per rotary actuating element (50, 52, 54), one means (62) for preventing further displacement or turning, the means being controllable by the display device in dependence on the position an object represented on the display device is in within an environment also represented on the display device (Col. 3, Lines 7-36, Col. 5, Lines 47-65).

Regarding Claim 10, Levin et al. teaches the preventing means (62) comprises a mechanical braking/blocking device for blocking the respective actuating element (32, 34, 36) and/or the rotary element(50, 52, 54), or a drive means for moving or turning the actuating element (32, 34, 36) and/or the rotary actuating element (50, 52, 54) (Col. 1, Line 60 to Col. 2, Line 15, Col. 2, Lines 38-40, Col. 5, Lines 47-65).

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Barnes et al. (6,069,594) Computer input device with multiple switches using single line.

Gilbert et al. (6,337,683 B1) Panoramic movies which simulate movement through multidimensional space.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prabodh M Dharia whose telephone number is 703-605-1231. The examiner can normally be reached on M-F 8AM to 5PM.

Art Unit: 2673

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 703-3054938. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9341 for regular communications and 703-872-9341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

Pd
AU2673
January 16, 2003



BIPIN SHALWALA
SENIOR PATENT EXAMINER
CENTER 2600